Influences of Self-Efficacy and Motivation in Science Education:

Using Role Models to Pique Student Interest

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Honors in Education Thesis

Layperson Summary

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Overview

Self-efficacy and motivation toward science in upper elementary school students are declining. This decline is leading to poor performance and lack of academic success. These results have long term effects on the individual and on our nation. The number of science and engineering graduates in America is declining. This forces America to resource science and engineering jobs outside of our country. Our world is becoming more technologically advanced. Students in elementary school need to have their self-efficacy and motivation toward science raised in order to be prime candidates in the technological future. This study will be more catered to the female and minority population. One of the primary focuses of the motivational activity and presentation will be the use of role models. Role models are one of the largest influences on self-efficacy and motivation for younger students.

Method

The participants of this study will be a class of approximately 25 fifth grade students in a Title 1, STEM, suburban school. In this study, the students will fill out a questionnaire to gain
data about their likes and dislikes of science, and their self-efficacy and motivation towards science. I will also have the teacher fill out a questionnaire about her observations of the students’ self-efficacy and motivation towards science. Then, I will do a motivational activity and presentation with the students in order to increase their self-efficacy and motivation toward science. Lastly, I will have the teacher and students fill out a second questionnaire so I can compare the differences in self-efficacy and motivation from before the activity and after the activity. I will also conduct a few student interviews to gain additional information about the activity.